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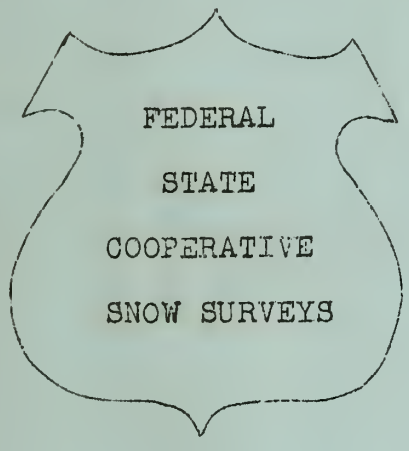
SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for the

RIO GRANDE DRAINAGE BASIN

March 1, 1941



Issued by the
United States Department of Agriculture
Soil Conservation Service
Division of Irrigation
In Cooperation with
The Colorado Agricultural Experiment Station
Colorado State College
Fort Collins, Colorado

March 10, 1941

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for

RIO GRANDE BASIN

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The following data pertaining to snow surveys and irrigation water-supply forecasts are provided by the Division of Irrigation, Soil Conservation Service of the U.S. Department of Agriculture, in cooperation with other Federal Bureaus, State Departments, and local organizations. The snow measurements are made principally by field personnel of the U. S. Forest Service and Colorado State Engineer. This work is otherwise conducted cooperatively with the State Engineers of Colorado and New Mexico, Colorado Agricultural Experiment Station, and various municipalities, irrigation associations and others. Precipitation records are supplied by the U. S. Weather Bureau.

PRECIPITATION DATA

WATERSHED	STATE	Precipitation October 1 to February 28	Departure from Normal	Precipitation February	Departure from Normal
		Inches	Inches	Inches	Inches
Canadian	New Mexico	4.19	+0.98	0.37	-0.15
Rio Grande	Colorado	7.66	+2.06	1.13	-0.10
Rio Grande	New Mexico	8.30	+3.04	1.27	+0.10
Pecos	New Mexico	4.31	+0.78	0.73	+0.09

SUMMARY OF MARCH 1 SNOW SURVEYS AND COMPARISON OF DATA WITH THAT OF PREVIOUS YEARS BY WATERSHEDS

WATERSHEDS	Snow Depth			Water Content			Number Courses in Average	Snow Density			1941 Water Content in percent of	
	Five Year Avg.*	1940	1941	Five Year Avg.*	1940	1941		Five Year Avg.*	1940	1941	Five year Avg.*	1940
	In.	In.	In.	In.	In.	In.		Percent	Percent	Percent		
Rio Grande	31.8	27.1	38.7	9.1	7.7	11.5	21	29	28	30	127	149
Canadian River	18.0	19.0	24.6	5.4	5.8	8.0	2	30	30	32	148	138

*Some for shorter periods.

WATER SUPPLY OUTLOOK

Above normal precipitation continued during February over the watersheds of the Rio Grande and the Pecos in New Mexico. Over the Canadian River watershed and the Rio Grande in Colorado precipitation was slightly below normal during February. However, the accumulated precipitation since October 1 is still 25 percent or more above normal.

RIO GRANDE. The water content of the snow on March 1 on the watershed of the Rio Grande in Colorado and New Mexico as shown by measurements on 21 courses was 11.5 inches; a year ago it was only 7.7 inches. The five-year average is 9.1 inches.

CANADIAN RIVER. Two courses on the watershed of the Canadian had an average water content of 8.0 inches on March 1, and 5.8 inches a year ago. The five-year average for the courses is 5.4 inches.

There is ample moisture in the soil in New Mexico and in the San Luis Valley in Colorado. Reservoirs in the San Luis Valley have 14 percent more water in storage at the present time than they did a year ago. The reservoirs on the Elephant Butte Project have 34 percent less water in storage than they had last year at this time, however, the flow of the Rio Grande is above normal above and below Albuquerque and conditions are favorable for heavy flow from the headwaters of the Chama. Conchas Reservoir on the watershed of the Canadian has 32 percent more water in storage than it did on March 1, 1940.

From 10 to 18 inches of snow cover the entire San Luis Valley, and the snow in the mountain areas on the watershed of the Rio Grande in Colorado and New Mexico is greater on the average than it was in 1937 - the year of heaviest snow since the snow survey project was started. Conditions at present are favorable for an ample supply of irrigation water in New Mexico.

RIO GRANDE WATERSHED

Summary of Federal and State Cooperative Snow Surveys

Issued March 10, 1941, at Fort Collins, Colo.

No.	Main Drainage and Snow Course	Local Drainage	Location			Elev.	National Forest	Mar.1 Snow Course Measurements					
			State	Locality	Description			Av. Snow Depth			Av. Water Content		
								Avg.	1940	1941	Avg.	1940	1941
								In.	In.	In.	In.	In.	In.
	RIO GRANDE												
26	Wolf Creek Pass	South Fork	Colo.	Wolf Cr.Pass	4-37N-2E	10000	Rio Grande	74.2	53.0	75.0	22.8	15.6	25.1
27	Upper Rio Grande	Rio Grande	"	RioGrande Res.	13-40N-4W	9350	" "	24.2	16.5	30.0	5.3	3.0	6.7
47	Silver Lakes	Alamosa R.	"	1mi.S.Silver L.	15-36N-5E	9600	" "	22.6	14.2	23.5	4.7	3.3	6.0
49	River Springs	Conejos R.	"	10mi.W.Mogote	25-33N-6E	9300	" "	27.7	17.4	25.3	6.9	4.2	6.2
74	LaVeta Pass #2	SanCristo Cr.	"	LaVeta Pass	22-28S-70W	9300	SanCristoGr	33.4	34.0	30.3	7.9	7.7	8.0
75	Ute Ridge	Rio Grande	"	Rio Grande Res.	31-41N-4W	9700	Rio Grande	--	--	--	--	--	--
76	Summitville	Wightman Cr.	"	Summitville	30-37N-4E	11500	" "	57.0	52.0	65.0	15.7	13.8	19.2
77	Cumbres Pass #2	Los Pinos R.	"	Cumbres Pass	17-32N-5E	10000	" "	72.2	57.7	82.0	23.9	18.8	26.5
80	Santa Maria	N.Clear Cr.	"	Santa Maria Res.	8-41N-2W	9700	" "	17.9	10.6	26.5	3.7	2.2	5.1
82	Culebra	Culebra R.	"	12mi.E.SanLuis	37.2N105.2W	10000	SanCristoGr	43.2	40.3	46.2	12.0	11.2	12.7
84	Fort Garland	Big Ute Cr.	"	6mi.N.Ft.Garland	13-29N-7W	8200	" " "	18.3	12.1	24.5	4.8	3.0	6.7
1	Red River	Red River	N.Mex.	6mi.SE.RedRiver	29-28N-15E	9500	Carson	29.3	26.3	34.8	8.3	8.2	9.9
2	Taos Canyon	Rio de Taos	"	14mi.E.Taos	10-25N-15E	9000	"	21.9	20.5	34.1	6.6	6.9	10.1
4	Aspen Grove	Rio En Medio	"	10mi.NE.SantaFe	12-18N-10E	9100	Santa Fe	22.1	22.0	32.0	5.7	5.2	9.8
5	Lee Ranch	Jemez Cr.	"	5mi.NW.Bland	3-18N-4E	9050	" "	30.7	24.8	55.0	7.8	7.4	14.9
6	Canjilon	Canjilon Cr.	"	8mi.NE.Canjilon	4-26N-6E	9500	Carson	52.5	50.0	67.0	18.7	18.2	25.4
7	Rio Nutrias	Rio Nutrias	"	10mi.SE.ParkView	6-27N-5E	7900	"	19.2	17.0	26.9	5.4	4.5	7.9
8	Panchuela	Panchuela Cr.	"	1mi.N.Cowles	34-19N-12E	8500	Santa Fe	15.4	16.7	27.8	4.3	4.2	8.2
9	Hematite Park*	Red River	"	3mi.SE.Red R.	8-28N-15E	9500	Carson	21.5	26.2	26.7	6.3	7.5	8.7
12	Tres Ritos	Agua Piedra	"	7mi.W.Holman	23-22N-13E	9000	"	23.7	25.4	30.6	6.6	6.7	8.6
15	Pay Role	Rock Creek	"	4mi.SE.Hopewell	16-28N-7E	10000	"	46.0	--	46.0	13.3	--	13.3
16	Jicarilla	Rock Lake Cr.	"	15mi.S.Dulce	9-29N-1W	8500	Jicarilla R.	18.0	13.5	22.6	5.8	4.1	7.6
17	Chama Divide	Willow Creek	"	6mi.W.Chama	36.9N-106.7W	7750	Off Forest	23.1	19.4	26.8	7.2	5.4	9.0
18	Chamita	Chamita Cr.	"	6mi.NW.Chama	36.9N-106.7W	8500	" "	47.5	--	47.5	15.6	--	15.6
					Average for Drainage			31.8	27.1	38.7	9.1	7.7	11.5
	CANADIAN												
9	Hematite Park	Moreno Creek	N.Mex.	3mi.SE.Red.R.	8-28N-15E	9500	Carson	21.5	26.2	26.7	6.3	7.5	8.7
10	Ocate Mesa	Ocate Creek	"	3mi.E.Black L.	25-24N-16E	9200	Off Forest	14.4	11.7	22.5	4.4	4.1	7.2
					Average for Drainage			18.0	19.0	24.6	5.4	5.8	8.0

*On adjacent drainage